

CLAIMS

What we claim is:

- 1 1. A system for updating electronic files of remote devices, comprising:  
2 a first device including a file differencing engine that generates differences  
3 between an original version and a new version of an electronic file by:  
4 identifying a first type of difference between the original and the new  
5 versions;  
6 generating a modified version of the original version using information of  
7 the first type of difference;  
8 generating encoded differences between the modified version and the new  
9 version, wherein the encoded differences include a second type of difference  
10 between the original and the new versions;  
11 encoding the information of the first type of difference;  
12 generating a difference file including the encoded differences and the  
13 encoded information of the first type of difference; and  
14 a file updating engine hosted on the remote device, the file updating engine  
15 generating a copy of the new version using the difference file.
- 1 2. The system of claim 1, wherein generating a copy of the new version using the  
2 difference file further comprises:  
3 receiving the difference file;  
4 reading the encoded information of the first type of difference;  
5 generating a modified version of the original file using the encoded information of  
6 the first type of difference; and  
7 generating a copy of the new file using the modified version of the original file  
8 and the encoded differences between the modified version and the new file.
- 1 3. The system of claim 1, wherein the first type of difference includes at least one of  
2 differences resulting from address shifts due to source code line deletions, differences  
3 resulting from address shifts due to source code line additions, differences resulting from

4 address shifts due to source code line modifications, differences resulting from address  
5 shifts due to code block swapping, and differences resulting from compiling/linking the  
6 new version.

1 4. The system of claim 1, wherein the second type of difference includes at least one  
2 of differences resulting from source code line deletions, differences resulting from source  
3 code line additions, differences resulting from source code line modifications, differences  
4 resulting from data initialization changes, differences resulting from resource file  
5 changes, differences resulting from configuration file changes, and differences resulting  
6 from dictionary changes.

1 5. The system of claim 1, wherein the remote device includes at least one of cellular  
2 telephones, portable communication devices, personal digital assistants, personal  
3 computers, and portable processor-based devices.

1 6. An apparatus for generating difference files, comprising:  
2 means for identifying a first type of difference between an original file and a new  
3 file, wherein the new file includes an updated version of the original file;  
4 means for generating a modified version of the original file using information of  
5 the first type of difference;  
6 means for generating encoded differences between the modified version and the  
7 new file, wherein the encoded differences include a second type of difference between  
8 the original and the new files;  
9 means for encoding the information of the first type of difference; and  
10 means for generating a difference file including the encoded differences and the  
11 encoded information of the first type of difference.

1 7. The apparatus of claim 6, further comprising means for transferring the difference  
2 file to a remote system that hosts a copy of the original file, the remote system updating  
3 the hosted copy of the original file using the difference file.

1     8.     A method for generating difference files, comprising:  
2           receiving an original file and a new file, wherein the new file includes an updated  
3     version of the original file;  
4           identifying a first type of difference between the original file and the new file;  
5           generating a modified version of the original file using information of the first  
6     type of difference;  
7           generating encoded differences between the modified version and the new file,  
8     wherein the encoded differences include a second type of difference;  
9           encoding the information of the first type of difference; and  
10          generating the difference file including the encoded differences and the encoded  
11     information of the first type of difference.

1     9.     The method of claim 8, further comprising:  
2           transferring the difference file to at least one remote system via at least one  
3     coupling, wherein the remote system includes at least one processor-based system,  
4     wherein the coupling includes at least one of a wireless coupling, a wired coupling, and a  
5     hybrid wireless/wired coupling; and  
6           updating a hosted copy of the original file in the remote processing systems using  
7     the difference file.

1     10.    A method for updating electronic files hosted on remote systems, comprising:  
2           receiving an original file and a new file, wherein the new file includes an updated  
3     version of the original file;  
4           identifying a first type of difference between the original file and the new file;  
5           generating a modified version of the original file using information of the first  
6     type of difference;  
7           generating encoded differences between the modified version and the new file,  
8     wherein the encoded differences include a second type of difference;  
9           encoding the information of the first type of difference;  
10          generating a difference file including the encoded differences and the encoded  
11     information of the first type of difference; and

12            updating a hosted copy of the original file in the remote systems using the  
13   difference file.

1   11.    The method of claim 10, wherein updating further comprises:  
2          receiving the difference file;  
3          reading the encoded information of the first type of difference;  
4          generating a modified version of the original file using the encoded information of  
5   the first type of difference; and  
6          generating a copy of the new file using the modified version of the original file  
7   and the encoded differences between the modified version and the new file.

1   12.    A computer readable medium including executable instructions which, when  
2   executed in a processing system, generate a difference file that includes coded differences  
3   between an original file and a new file by:  
4          receiving the original and the new file, wherein the new file includes an updated  
5   version of the original file;  
6          identifying a first type of difference between the original file and the new file;  
7          generating a modified version of the original file using information of the first  
8   type of difference;  
9          generating encoded differences between the modified version and the new file;  
10          encoding the information of the first type of difference; and  
11          generating a difference file including the encoded differences and the encoded  
12   information of the first type of difference.